

Appendix M
Adopted State Measures

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ATTACHMENTS - APPENDIX M2

SC AIR POLLUTION CONTROL REGULATION R. 61-62.1

Definitions And General Requirements

SC AIR POLLUTION CONTROL REGULATION R. 61-62.2

Prohibition Of Open Burning

SC AIR POLLUTION CONTROL REGULATION R, 61-62.5, STANDARD NO. 2

Ambient Air Quality Standards

SC AIR POLLUTION CONTROL REGULATION R. 61-62.5, STANDARD NO. 5

Volatile Organic Compounds

SC AIR POLLUTION CONTROL REGULATION R. 61-62.5, STANDARD NO. 5.1

*Best Available Control Technology (BACT)/Lowest Achievable Emission Rate ("LAER")
Applicable To Volatile Organic Compounds*

SC AIR POLLUTION CONTROL REGULATION R. 61-62. 5, STANDARD NO. 5.2

Control Of Oxides Of Nitrogen (NO_x)

SC AIR POLLUTION CONTROL REGULATION R. 61-62.5, STANDARD NO. 7

Prevention Of Significant Deterioration

SC AIR POLLUTION CONTROL REGULATION R. 61-62.5, STANDARD NO. 7.1

Nonattainment New Source Review (NSR)

SC AIR POLLUTION CONTROL REGULATION R. 61-62.96

Nitrogen Oxides (NO_x) Budget Trading Program

SC AIR POLLUTION CONTROL REGULATION R. 61-62.99

*Nitrogen Oxides (NO_x) Budget Program Requirements For Stationary Sources Not In The Trading
Program*

ADOPTED STATE MEASURES

The South Carolina Code of Laws, as amended, South Carolina Air Pollution Control Regulation R. 61-62 - *Air Pollution Control Regulations and Standards*, has been promulgated as necessary to maintain reasonable standards of purity of the air resources of the State, consistent with the public health, safety, and welfare of its citizens. This appendix contains the regulations and standards that have been promulgated and other State initiatives that have been implemented which include enforceable emission limitations, and such other control measures, means or techniques as may be necessary or appropriate to provide for attainment of the 8-hour ozone NAAQS. The following is a brief synopsis of the ozone control measures already implemented in the RFATS MPO nonattainment area in South Carolina:

I. New Source Review Regulations

On December 31, 2002, the EPA finalized revisions governing the New Source Review (NSR) program. The major NSR program is a preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants. In areas not meeting health-based NAAQS, the program is referred to as the Prevention of Significant Deterioration (PSD) program. Collectively, these programs are commonly referred to as the major NSR program.

In accordance with EPA's final rule revisions, state agency programs must adopt and submit revisions to their SIPs to include the minimum program elements outlined in the final rules. States may choose to adopt provisions that differ from the final rules; however, to be approvable under the SIP, the state must show that the regulation is at least as stringent as EPA's amendments.

After a lengthy stakeholder process, SCDHEC submitted revisions to the Legislature in January 2005 to comply with the EPA requirements. The revisions adopted by SCDHEC differ from the federal revisions in several key respects and have the effect of being more stringent than the federal rules. These revisions were approved by the General Assembly and became effective upon publication in the *State Register* on June 24, 2005. The final regulations promulgated amendments to regulations R. 61-62.1, *Definitions and General Requirements*, and R. 61-62.5, Standard 7, Prevention of Significant Deterioration, and also promulgated a new regulation, 61-62.5, Standard No. 7.1, *Nonattainment New Source Review*.

A. South Carolina Air Pollution Control Regulation R. - *Definitions, and General Requirements, Section II - Permit Requirements*

This regulation implements a program for the minor new source review permitting program which enhances the State's prevention of significant deterioration of air quality initiatives.

B. South Carolina Air Pollution Control Regulation R. 61-62.5, Std. No. 7 - *Prevention of Significant Deterioration*

This regulation implements a program for the prevention of significant deterioration of air quality for sources located in or proposing to be constructed in an unclassifiable/attainment areas of the State.

C. South Carolina Air Pollution Control Regulation R. 61-62.5, Std. No. 7.1 - *Nonattainment New Source Review*

Sources located in or proposing to be constructed in nonattainment areas are subject to the requirements of Regulation R. 61-62.5, Std. No. 7.1.

II. NO_x Regulations

These regulations specify the requirements for controlling NO_x and for demonstrating compliance with NO_x limitations and the NO_x SIP Call.

A. South Carolina Air Pollution Control Regulation R. 61-62.5, Std. No. 2 - *Ambient Air Quality Standards*

This regulation contains the State of South Carolina ambient air quality standards which have recently been amended to include the 8-hour ozone standards.

B. South Carolina Air Pollution Control Regulation R. 61-62.5, Std. No. 5.2 - *Control of Oxides of Nitrogen (NO_x)*

This regulation contains the NO_x control standards applicable to affected stationary sources that emit or has the potential to emit NO_x generated from fuel combustion.

C. South Carolina Air Pollution Control Regulation R. 61-62.96 - *Nitrogen Oxides (NO_x) Budget Trading Program*

On October 27, 1998, the EPA finalized a Nitrogen Oxides (NO_x) State Implementation Plan (SIP) Call Rule. The NO_x SIP Call was designed to reduce the regional transport of ground-level ozone through reductions in NO_x from electric generating unit (EGU) sources and from some non-EGU sources. The rule requires that, beginning in 2004, NO_x reductions must occur during ground-level ozone season in states whose NO_x emissions have been identified as contributing to 1-hour ozone standard non-attainment in "downwind" states. The rule also requires states to identify pollution-reduction measures and develop a plan to achieve these reductions.

Each state subject to the NO_x SIP Call regulation has a NO_x budget that the state allocates to applicable sources. The budget is based on cost-effective reductions in emissions that can be achieved by the affected sources. South Carolina's state trading program budget, as specified in Regulation 61-62.96, Nitrogen Oxides (NO_x) Budget Trading Program, is 19,678 tons. The NO_x SIP Call regulation will be repealed after 2009 upon implementation of the Clean Air Interstate Rule.

D. South Carolina Air Pollution Control Regulation R. 61-62.99 - *Nitrogen Oxides (NO_x) Budget Program Requirements for Stationary Sources Not In the Trading Program*

This regulation details the requirements for controlling NO_x emissions from Cement Manufacturing.

E. South Carolina Air Pollution Control Regulation R. Regulation 61-62.2 - *Prohibition of Open Burning*

The revision of Regulation 61-62.2 - Prohibition of Open Burning, includes a ban of certain open burning during the ozone season for additional control of NO_x emissions.

III. VOC Regulations

A. South Carolina Air Pollution Control Regulation R. 61-62.5 Std. No. 5 - *Volatile Organic Compounds*

This regulation contains requirements for controlling VOCs.

B. South Carolina Air Pollution Control Regulation R. 61-62.5 Std. No. 5.1 - *Best Available Control Technology (BACT) / Lowest Achievable Emission Rate ("LAER") Applicable to Volatile Organic Compounds*

This regulation contains requirements for statewide BACT for controlling VOCs.

IV. Other State Control Measures

A. Clean Air Interstate Rule

On March 10, 2005 the EPA finalized the Clean Air Interstate Rule, also referred to as CAIR. On May 12, 2005, CAIR was published in the *Federal Register*.

CAIR affects 28 states and the District of Columbia, whose emissions of sulfur dioxide (SO₂) and/or NO_x produced by EGU sources and some non-EGU sources contribute significantly to the nonattainment of the National Ambient Air Quality Standards (NAAQS) for fine particles (PM_{2.5}) and/or 8-hour ozone in downwind states. (SO₂ and NO_x are both precursors to ground-level ozone formation, and NO_x is also a precursor to PM_{2.5} formation.) The EPA has determined that EGU sources in South Carolina are affecting the nonattainment of ozone and PM_{2.5} standards in downwind states. CAIR is a cap-and-trade program for NO_x and SO₂ emissions from affected facilities and has two phases of implementation:

Phase I which begins in 2009 for NO_x (annual and ozone season) and 2010 for SO₂; and

Phase II which begins in 2015 for both pollutants.

CAIR was due for submission to the EPA for approval on September 11, 2006. South Carolina is one of many states that did not meet this deadline because of a lengthy regulatory process. SCDHEC is working closely with EPA Region 4 toward implementation of the State's rule. SCDHEC has adopted the federal CAIR with modifications in areas where the state has flexibility. A Notice of Drafting was published in the *State Register* on July 22, 2005; a second Notice of Drafting was published in the *State Register* on February 24, 2006. The initial approval to proceed with the proposed regulation was given by the SCDHEC Board on September 14, 2006. The Notice of Proposed Rule was first published in the *State Register* on October 27, 2006. A public hearing before the SCDHEC Board was held on January 11, 2007. On January 22, 2007, the proposed regulation was submitted to the South Carolina Legislature for approval. In March of 2007, SCDHEC submitted a request to EPA Region 4 for parallel processing. SCDHEC anticipates the proposed regulation to become state-effective upon publication in the *State Register* in mid-Summer 2007. South Carolina is working with USEPA to complete the parallel processing at this time.

B. Permitting Requirements Involving Emission Offsets - Conditions for Approval

If SCDHEC finds that the major stationary source or major modification would be constructed in an area designated in 40 CFR 81.341 as nonattainment for a pollutant for which the stationary source or modification is major, approval may be granted only if the following conditions are met:

(A) The major stationary source or major modification is required to meet an emission limitation which specifies the lowest achievable emission rate (LAER) for such source.

(B) The applicant must certify that all existing major sources owned or operated by the applicant (or any entity controlling, controlled by, or under common control with the applicant) in the

same State as the proposed source are in compliance with all applicable emission limitations and standards under the Clean Air Act (or are in compliance with an expeditious schedule which is Federally enforceable or contained in a court decree).

(C) The owner or operator of the proposed new major stationary source or major modification will obtain sufficient emission reductions of the nonattainment pollutant from other sources. Emission reductions shall be in effect and enforceable prior to the date the new source or modification commences operation. The emission reductions shall be obtained in accordance with the following provisions:

(1) Where the permitted emissions limit allows greater emissions than the potential to emit of the source, emissions offset credit will be allowed only for control below this potential;

(2) For an existing fuel combustion source, credit shall be based on the allowable emissions for the type of fuel being burned at the time the application to construct is filed. If the existing source commits to switch to a cleaner fuel at some future date, emissions offset credit based on the allowable (or actual) emissions for the fuels involved is not acceptable, unless the permit is conditioned to require the use of a specified alternative control measure which would achieve the same degree of emissions reduction should the source switch back to a dirtier fuel at some later date.

(3) (a) Emissions reductions achieved by shutting down an existing source or curtailing production or operating hours below baseline levels may be generally credited if such reductions are permanent, quantifiable, federally enforceable, occurred on or after the date of the most recent emissions inventory, and if the area has an EPA-approved attainment plan.

(b) Such reductions may be credited if the shutdown or curtailment occurred on or after the date the new source permit application is filed, or, if the applicant can establish that the proposed new source is a replacement for the shutdown or curtailed source, and the cutoff date provision of paragraph (d)(C)(iii)(a) of Standard 7.1 are observed.

(4) No emissions credit may be allowed for replacing one hydrocarbon compound with another of lesser reactivity, except for those compounds listed in Table 1 of EPA's "Recommended Policy on Control of Volatile Organic Compounds" (42 FR 35314, July 8, 1977);

(5) All emission reductions claimed as offset credit shall be federally enforceable;

(6) Location of offsetting emissions. Emission offsets shall be obtained from sources currently operating within the same designated nonattainment area as the new or modified stationary source. Emission offsets may be obtained from another nonattainment area with the Department's approval only if:

(a) The other area has an equal or higher nonattainment classification than the area in which the proposed source is located; and,

(b) Emissions from the other area contribute to a violation of the NAAQS in the nonattainment area in which the source is located.

(7) Emission offsetting ratios. Emission offsets shall be required in nonattainment areas in accordance with the following provisions:

(a) Emissions for carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), particulate matter (PM₁₀ and PM_{2.5}) nonattainment areas shall be offset at a ratio

greater than one to one.

(b) Emissions for ozone nonattainment areas shall be offset for volatile organic compounds (VOCs) and nitrogen oxides (NOx) in accordance with the following table:

Designation	Offset ratios
Subpart I	>1 to 1
Marginal	1.1 to 1
Moderate	1.15 to 1
Serious	1.2 to 1
Severe	1.3 to 1
Extreme	1.5 to 1

(8) Credit for an emissions reduction can be claimed to the extent that the Department has not relied on it in issuing any permit under regulations approved pursuant to 40 CFR part 51 subpart I or the Department has not relied on it in demonstrating attainment or reasonable further progress.

(9) Decreases in actual emissions resulting from the installation of add-on control technology or application of pollution prevention measures that were relied upon in designating an emissions unit as a Clean Unit or a project as a PCP cannot be used as offsets.

(10) Decreases in actual emissions occurring at a Clean Unit cannot be used as offsets, except as provided in paragraphs (f)(8) and (g)(10) of Regulation 61-62.5, St. No. 7.1. Similarly, decreases in actual emissions occurring at a PCP cannot be used as offsets, except as provided in paragraph (h)(6)(iv) of Regulation 61-62.5, St. No. 7.1.

(11) The total tonnage of increased emissions, in tons per year, resulting from a major modification that must be offset in accordance with section 173 of the Clean Air Act shall be determined by summing the difference between the allowable emissions after the modification (as defined by paragraph (b)(3) of Regulation 61-62.5, St. No. 7.1) and the actual emissions before the modification (as defined in paragraph (c)(1) of Regulation 61-62.5, St. No. 7.1) for each emissions unit.

(D) The emission offsets must provide a positive net air quality benefit in the affected area as determined by 40 CFR 51, Appendix S, Emission Offset Interpretative Ruling.

(E) Alternative Sites Analysis. An analysis of alternative sites, sizes, production processes, and environmental control techniques for such proposed source demonstrates that benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification shall be required.

V. Emissions Inventory

South Carolina Air Pollution Control Regulation R. 61-62.1 - Definitions, and General Requirements, Section III - Emissions Inventory

This regulation requires the submittal of emissions inventory information by affected sources.

VI. Reasonably Available Control Measures (RACM)

Reasonably Available Control Measures is a broadly defined term referring to technologies and other measures that can be used to control pollution; includes Reasonably Available Control Technology (see Appendix R - RACT SIP) and other measures.

EPA's final 8-hour ozone implementation rule in 40 CFR 51.912(d) pursuant to section 172(c)(1) of the CAA requires the attainment demonstration SIP submittal to include "a SIP revision demonstrating that it has adopted all RACM necessary to demonstrate attainment as expeditiously as practicable and to meet any RFP requirements." In addition, EPA's RACM policy indicates that areas should consider all candidate measures that are potentially available, including any that have been suggested for the particular nonattainment area. Although areas should consider all available measures, areas need only to adopt measures if they are both economically and technologically feasible and will contribute to timely attainment or are necessary for RFP. Measures which might be available but would not advance attainment or contribute to RFP need not be considered RACM.

A. Reasonably Available Control Technology (RACT)

The case-by-case RACT analysis for existing sources located in the ozone nonattainment area with the potential to emit greater than 100 tons per year of NO_x and/or VOC is found in Appendix R - RACT SIP.

B. Early Action Compacts

On August 22, 2002, DHEC published a Notice of Drafting in the State Register announcing its intent to pursue Early Action Compacts (EAC) for the 8-hour ozone standard. Through the EAC process, local, state, and EPA officials commit to working together to develop and implement plans that will reduce ozone pollution so that areas are attaining the 8-hour ozone standard earlier than would be required by the Clean Air Act. Only areas that are attaining the 1-hour ozone standard are eligible to participate in the EAC process. The compact requires these areas to attain the 8-hour ozone standard by December 31, 2007, a date that is sooner than would otherwise be required through the traditional nonattainment designation process.

At the end of 2002, 45 of South Carolina's 46 counties, SCDHEC, and USEPA Region 4 had signed compacts to implement ozone reduction strategies earlier than federally required. Statewide stakeholder groups involving local and federal governments, industry, environmental groups, and other interested parties have worked together to plan and implement strategies for ozone pollution prevention throughout the state. Plans involve mobile source pollution reduction, outreach actions, and point source prevention, which provide flexibility and foster "homegrown" solutions.

The most important reasons for moving forward in this proactive manner are the public health benefits realized by meeting the new standard sooner than required and also the deferral of the effective date of a nonattainment designation.

As part of this process, the EAC stakeholders developed statewide regulations aimed at achieving additional reductions in ozone precursors. One new regulation that was developed as part of this process was South Carolina Air Pollution Control Regulation R. 61-62.5, Standard 5.2, *Control of Oxides of Nitrogen (NO_x)*. This is a broad-based regulation that applies statewide to new and existing stationary sources that emit NO_x from fuel combustion and have not undergone a best available control technology (BACT) analysis for NO_x. For new sources, the regulation requires the installation of control technology that is based on BACT standards found in the RACT/BACT/LAER clearinghouse. For existing sources, the regulation only applies when an applicable unit replaces their burner. At this point, they will be required to replace their burner with a low NO_x burner or equivalent technology capable of achieving a

30 percent reduction from uncontrolled levels.

Also, as part of the EAC process, South Carolina Air Pollution Control Regulation R. 61-62.2, *Prohibition of Open Burning*, was revised by deleting the exception for the burning of household trash, revising the exception for the burning of construction waste, and revising the exception for fires set for the purpose of firefighter training. The burning of household trash presents health and environmental concerns for many communities. The smoke generated from these activities is a nuisance to some and a health threat to others with asthma or other respiratory problems. With respect to the exception for the burning of construction waste, the regulation was revised to allow only residential construction waste to be burned outside the ozone season, and this will only be allowed if it meets the provisions of the regulation. Finally, the exception for the purpose of firefighter training was revised to ensure that minimum health, environmental, and safety concerns are addressed.

These regulations were approved by the SCDHEC Board in January 2004, and, in accordance with South Carolina law, they were subsequently submitted to the Legislature for approval. The South Carolina General Assembly approved the regulations, and the rules were published and became effective upon publication in the State Register on June 25, 2004.

In accordance with the EAC process, SCDHEC incorporated the statewide regulations and the local early action plans into the agency's Early Action SIP revision and submitted it to the USEPA in December 2004, for review and approval.

C. Take a Break from the Exhaust

Take a break from the exhaust (TABFTE) is an alternative commute initiative that uses a competitive model in which points are assigned/ awarded for each action that is done to minimize air pollution. A computer program is used by participants to report their actions and to record their daily points. The web-based program is available to state and local government, industry, and the public. The program tracks and calculates vehicle miles, determines emission reductions, is free and requires no additional equipment.

TABFTE was started by the SCDHEC Bureau of Air Quality in 2001 and used by the bureau staff. In 2003, it was awarded the Governor's Pollution Prevention Award and became internet accessible. The program was expanded to other state agencies in 2004.

The primary benefits of TABFTE are reduced emissions from mobile sources, increased awareness of the impact of mobile sources on air quality, and it encourages participants to take voluntary actions to help improve air quality.

D. Overall RACM Conclusions

A number of emissions controls programs have been implemented in South Carolina since the Clean Air Act Amendments of 1990, and substantial further emissions reductions will occur in the State as well as the Metrolina area in 2007. SCDHEC intends to continue to investigate and, where appropriate, adopt additional measures that would reduce emissions of ozone precursors even further. Such measures may help the State in the future, as it moves towards attainment of the eight-hour ozone NAAQS. The source categories emitting the vast preponderance of ozone precursor emissions in the State are already subject to control requirements. South Carolina has adopted all of the above RACM and have since determined that there are no additional technologically and economically feasible control measures that would result in South Carolina attaining the one-hour ozone NAAQS earlier than 2007.

ATTACHMENTS - APPENDIX M2